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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,249	03/18/2004	Beth E. Skidmore	501256.01 (30274/US)	7464

7590 10/05/2005

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EXAMINER

NGUYEN, HIEN N

ART UNIT	PAPER NUMBER
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2824

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/804,249	SKIDMORE, BETH E.	
	Examiner	Art Unit	
	Hien N. Nguyen	2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on the Election Response filed on 5/31/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/18/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Group I in the reply filed on 5/31/05 is acknowledged.
2. Claims 1-31 are presented for examining.

Specification

3. Claim 8 is objected to because of the following informalities:
 - In claim 8, line 1, the recitation of "**of claim 8**" should be replaced with "**of claim 7**" because of typo error. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miki (U.S. Patent No. 6,552,955) in view of Lee (U.S. Patent No. 6,449,209).

Regarding independent claim 1, Miki figure 1 show a memory device, comprising a row address circuit (14) operable to receive and decode row address signals (10) applied to external address terminals of the memory device, a column

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address circuit (18) operable to receive and decode column address signals applied to the external address terminals, a plurality of banks (22) of memory cells arranged in rows and columns, each of the memory cells being operable to store a data bit written to or read from the banks at a location determined by the decoded row address signals (20) and the decoded column address signals (28), a data path circuit (34) operable to couple data signals corresponding to the data bits between the banks of memory cells and external data terminals of the memory device and a command decoder (4) operable to decode a plurality of command signals (CKE, /CS..) applied to respective external command terminals of the memory device, the command decoder being operable to generate control signals corresponding to the decoded command signals.

Miki does not show that the first one of the banks of memory cells containing a number of memory cells that differs from the number of memory cells contained in a second bank of memory cells.

Lee figure 2A shows that the first memory bank (210) has different number of memory cells than the second memory bank (220).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have use different number of memory cells, *ie.* different size of banks, of Lee for the structure of Miki in order to reduce problem of page accessing in using different data (see column 1, lines 30-43 and column 2, lines 39-44).

Regarding claim 2, the first bank of memory cells contains a number of columns of memory cells that differs from the number of columns of memory cells in the second bank of memory cells (column 2, lines 20-25).

Regarding claim 3, the first bank of memory cells contains a number of rows of memory cells that differs from the number of rows of memory cells in the second bank of memory cells (column 2, lines 25-32).

Regarding claim 4, a set (Y 214, Y 224) of sense amplifiers for each of the bank of memory cells, the number of sense amplifiers in each set corresponding to the number of columns of memory cells in each of the bank. (column 5, lines 25-26).

Regarding claims 5 and 6, the memory device comprises a dynamic random access memory device, or a synchronous dynamic random access memory device (column 7, lines 1-2).

Regarding claims 7, 8 and 9, the bank control logic (160) operable to select the bank to which data are to be written or from which data are to be read, or the nature of data.

Regarding claim 10, a mode register (6) that may be programmed to select the length of data bursts when the memory device is operating in a burst mode, and wherein the bank control logic is coupled to the mode register to select the bank to which data are to be written or from which data are to be read based on the length of data burst programmed in the mode register (also see figures 6 and 7 of Miki and column 6, lines 27-32).

Regarding independent claim 11 and independent claim 21, the limitation of including the memory device (of claims 1-10) in memory subsystem (as for claim 11) having a system controller or a computer system (as for claim 21) having a processor, a data bus (data storage...) is well known in the art since all memory device need a

system controller and a processor to be accessed in using in a computer. For instance, see figure 1 of U.S. Patent 6,754,117 issue to Jeddeloh.

Claims 12-20 and 22.-31 are rejected as respective with claims 2-10 above because of the same context, no redundant is needed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Shen (6,674,684) and Saito al. (6,906,960) disclose a multi-bank chip using different size of banks.

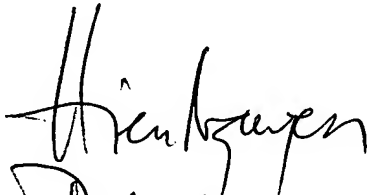
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien N. Nguyen whose telephone number is (571) 272-1879. The examiner can normally be reached on Monday through Thursday 9:30 AM to 7:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

H. Nguyen 
September 29, 2005


Patent Examiner